ABSTRACT

Process gas is fed from a gas supply means to a plasma generating means in a vacuum chamber, and hydrogen-containing plasma is generated by the plasma generating means under a low pressure. A soft solder alloy on the surface of a workpiece supported by a workpiece exposing means is exposed to the hydrogen-containing plasma so that the soft solder alloy is irradiated with the hydrogen-containing plasma. Either simultaneously with or immediately after the plasma irradiation, the soft solder alloy undergoes reflow treatment in a vacuum by a heating means. As no flux is used, there is no need of a washing process, and the bump-shaped electrode terminals produced by using the inexpensive soft solder alloy on the surface of the workpiece have great reliability.